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THESIS

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AN ANALYSIS OF THE PROCUREMENT ADMINISTRATIVE
LEAD TIME AT THE NAVAL REGIONAL
CONTRACTING CENTER PHILADELPHIA

by

John E. Mooney
P. O. NO

December 1987

Thesis Advisor:

Raymond W. Smith

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An Analysis of the Procurement Administrative
Lead Time At the Naval Regional
Contracting Center Philadelphia

by

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Submitted in partial fulfillment of the
requirements for the degree of

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ABSTRACT

The purpose of this thesis is to identify and discuss the components of large purchase Procurement Administrative Lead Time (PALT) at the Naval Regional Contracting Center (NRCC) Philadelphia and techniques which may be employed by NRCC personnel to reduce PALT given the current acquisition environment at the NRCC. Findings were that implementation of the initiatives in the Competition in Contracting Act (CICA) of 1984 and the Productive Unit Resourcing System (PURS) have resulted in increased PALT. The major conclusion is that NRCC Philadelphia is employing the correct techniques for control and management of PALT. Recommendations include initiation of a customer education and training program, early synopsis of appropriate requirements, revising the PURS unit weighting system, and development of a MIS to reduce PALT.

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I. INTRODUCTION

A. PROCUREMENT ADMINISTRATIVE LEAD TIME (PALT)

Procurement Administrative Lead Time (PALT) at the Naval Regional Contracting Center (NRCC), Philadelphia, is defined as that time period commencing when a procurement request (PR) is received at the Center through to the actual signing of an award document by the appropriate contracting officer. PALT is one of the two main components of procurement lead time (PCLT); the other component is production lead time (PLT), which is the time from the date of the contract to the date of receipt of the first significant delivery under the contract. [Ref. 1:p.1]

There are two distinct types of PALT: gross PALT and net PALT. Gross PALT is the total cumulative number of days from receipt of the PR through contract award. Net PALT is gross PALT adjusted for any of the following three situations:

1. If, after receipt of the PR, it is determined that the Statement of Work (SOW) or specifications are technically deficient and must be revised by returning the PR to the requiring activity.
2. If a protest occurs prior to award of a contract, including those protests made to the General Accounting Office (GAO), the General Services Board of Contract Appeals (GSBCA), or the contracting officer.

3. If, prior to award, a delay is caused due to lack of funding or funding constraint. [Ref. 2:p.4.6-29]

Over the years, the Naval Supply Systems Command (NAVSUP) has managed PALT at its field contracting activities by issuing standards, goals, and most recently by negotiating PALT goals in business plans with the activity Commanding Officers. In a 1977 instruction, for example, NAVSUP promulgated a Large Purchase PALT Matrix which defined PALT goals for various contract types and dollar values [Ref 3]. Figure 1 depicts the PALT matrix goals in numbers of days from receipt of PR to award of contract. This system proved to be less than optimal due to the great variability between contracting activities in customer base and types of requirements. As no two contracting activities are alike, the system was inefficient and unrealistic for each activity to have the same PALT goals.

Beginning in 1986, NAVSUP implemented a business plan system in which each activity negotiated with NAVSUP its productivity and funding goals for the next fiscal year. One element of the negotiation is the large and small purchase PALT goal averages which the activities agree to work within during the upcoming fiscal year. This system allows the activities some latitude in defining business goals. It is a more effective system as it is the activity that best understands its respective business base and the types of requirements it normally receives. In its FY 1988

LARGE PURCHASE PALT MATRIX GOALS

CONTRACT TYPE VALUES	TOTALS %	DELIVERY ORDERS IDTC, T&M, L.H., & COST		BOA ORDERS		FIXED PRICE INDEFINITE QUANTITY CONTRACTS	FORMAL ADV. (ALL)	NEGOTIATED SOLE SOURCE				NEGOTIATED COMPETITIVE				LETTER CONTRACT
		PRICED	UNPRICED	PRICED	UNPRICED			FIXED PRICE	T&M L.H.	COST REIMBURSABLE	CPAF/IF	FIXED PRICE	T&M L.H.	COST REIMBURSABLE	CPAF/IF	
TOTALS																
0 -100K		30	3	30	5	45	60	45	75	75		45	75	75		20
100K - 500K		45	3	45	5	75	60	75	120	120		45	120	120		20
500K - 1M		45	3	45	5	75	60	75	120	120		45	120	120		20
1M - 2M		60	3	60	5	120	60	90	150	150		75	150	150		35
2M - +		60	3	60	5	120	60	90	150	150		75	150	150		35

Figure 1. Large Purchase PALT Matrix
Source: NAVSUPINST 4200.63B

business plan, NRCC Philadelphia negotiated a large purchase goal of 83 days gross average PALT.

PALT is an important factor in the acquisition process as any delays in the administrative process inhibit the contracting officer's ability to award a contract and ensure timely delivery of goods and services to the end-user. While recent legislation, such as the Competition in Contracting Act (CICA) and others has been aimed at reducing prices paid for goods and services, these initiatives have fostered increased PALT. A more detailed review of CICA and other initiatives and programs will be presented in Chapter IV of this study.

B. FOCUS OF RESEARCH

The main thrust of this study will be to identify and discuss the components of PALT specifically for NRCC Philadelphia but generically for the overall Navy Field Contracting System (NFCS). Factors both internal and external to the acquisition process will be discussed and analyzed with a view towards providing recommendations that will assist in the reduction of PALT for NRCC Philadelphia and the NFCS.

The goal of this thesis is to provide NRCC Philadelphia and other NFCS contracting personnel with information necessary for management control and reduction of PALT, while maintaining the benefits of CICA and other procurement

legislation and programs. NRCC Philadelphia will benefit from the information presented because of the resultant reduction in PALT and the improvement in NRCC's ability to procure end-user goods and services for its fleet and shore based customer activities.

C. RESEARCH QUESTIONS

Based on the objectives cited above, the following primary research question is addressed in this study:

What are the principal factors which comprise PALT and how have these factors been affected by the changing acquisition environment, leading to increased PALT?

In support of the primary research question, the following subsidiary questions are addressed:

1. Are the methods currently utilized by NFCS procurement managers to control PALT effective?
2. What affect has the increased emphasis on competition fostered by CICA implementation had on PALT?
3. Is the relationship between PALT, productivity, and output of a quality contractual product a workable relationship?
4. Has the Productive Unit Resourcing System (PURS) caused increased PALT?
5. Should current PALT standards be revised?

D. RESEARCH METHODOLOGY

The information presented in this study was obtained through primary and secondary research. Primary research consisted of personal and telephone interviews of key personnel within the contracting directorate of NAVSUP and

contracts division of NRCC Philadelphia. Additional interviews of contracts/purchasing managers at the Defense Industrial Supply Center (DISC) and private industry were conducted to obtain non-Navy viewpoints on the management and control of PALT. Other types of data utilized in this study were local documents, statistical data, and records provided by NRCC Philadelphia.

The secondary research methodology employed was a review of relevant literature. The review was conducted to acquire a historical perspective of PALT issues. Literature was obtained from various sources, including NAVSUP, the Naval Postgraduate School library, and the Defense Logistics Studies Information Exchange (DLSIE). Additionally, current and past DOD and Federal instructions, directives and regulations, previous theses and current publications relevant to the Federal procurement industry were reviewed.

E. SCOPE OF THE STUDY

This thesis is limited to studying the procurement process at NRCC Philadelphia for end-user goods and services valued in excess of \$25,000. The small purchase process at NRCC Philadelphia was not included in the research for this study.

The study focuses on the procurement process from the point when a PR is received by the Center until an award document is signed by the contracting officer. This study

also discusses the impact of recent procurement legislation and productivity enhancement programs implemented by NAVSUP that affect PALT at all NFCS activities. In addition, research was also conducted at the Defense Industrial Supply Center (DISC) large purchase organization and commercial purchasing activities as a means of comparison of management controls and PALT management techniques.

F. ASSUMPTIONS

Throughout this study it is assumed that the reader is familiar with the Federal Acquisition process and the limitations and idiosyncrasies associated with it. It is further assumed that the reader is familiar with basic Naval terminology and with basic contracting and acquisition terminology. If the reader desires, additional detailed information of the DOD Acquisition process may be obtained from the Federal Acquisition Regulation (FAR), the Defense Supplement to the Federal Acquisition Regulation (DFAR), and the Navy Acquisition Regulation Supplement (NARSUP).

G. ORGANIZATION OF THE STUDY

This thesis is organized to give the reader a comprehensive overview of the acquisition process at NRCC Philadelphia and the legislative and programmatic environment which inhibits the process. Chapter II presents a discussion of the acquisition process as it pertains to

NRCC Philadelphia. The discussion includes a review of the basic components of PALT.

Chapter III provides a review of the changing acquisition environment and focuses on two major initiatives, CICA and PURS, which have had the most significant affect on the acquisition process at NRCC Philadelphia. Chapter IV presents an Analysis of Variance (ANOVA) of PALT statistics at NRCC Philadelphia during the period October 1984 through September 1987.

Chapter V provides conclusions of the research effort and offers recommendations for ways to reduce PALT and streamline the acquisition process at NRCC Philadelphia and other NFCS activities.

II. THE ACQUISITION PROCESS

A. INTRODUCTION

This chapter focuses on the phases of the acquisition process as it is followed at NRCC Philadelphia. It is presumed that although the process described pertains specifically to the NRCC, the process is generically the same for all activities of the Navy Field Contracting System.

B. THE ACQUISITION PROCESS

1. The Pre-solicitation Phase

The acquisition process begins at NRCC Philadelphia when a purchase request (PR) is received in Contracts Division. At this point, the PALT clock begins ticking. The PR may be hand carried to the NRCC by a representative of the customer activity, or it may be received in the mail or via telecopier from customers in outlying areas. An internal control number is assigned to the PR and it is forwarded in a folder to the appropriate branch in the Contracts Division. The Contracts Division at NRCC Philadelphia, depicted in Figure 2, is organized by customer (requiring activity). Each branch is assigned a number of customer activities for which it provides contracting

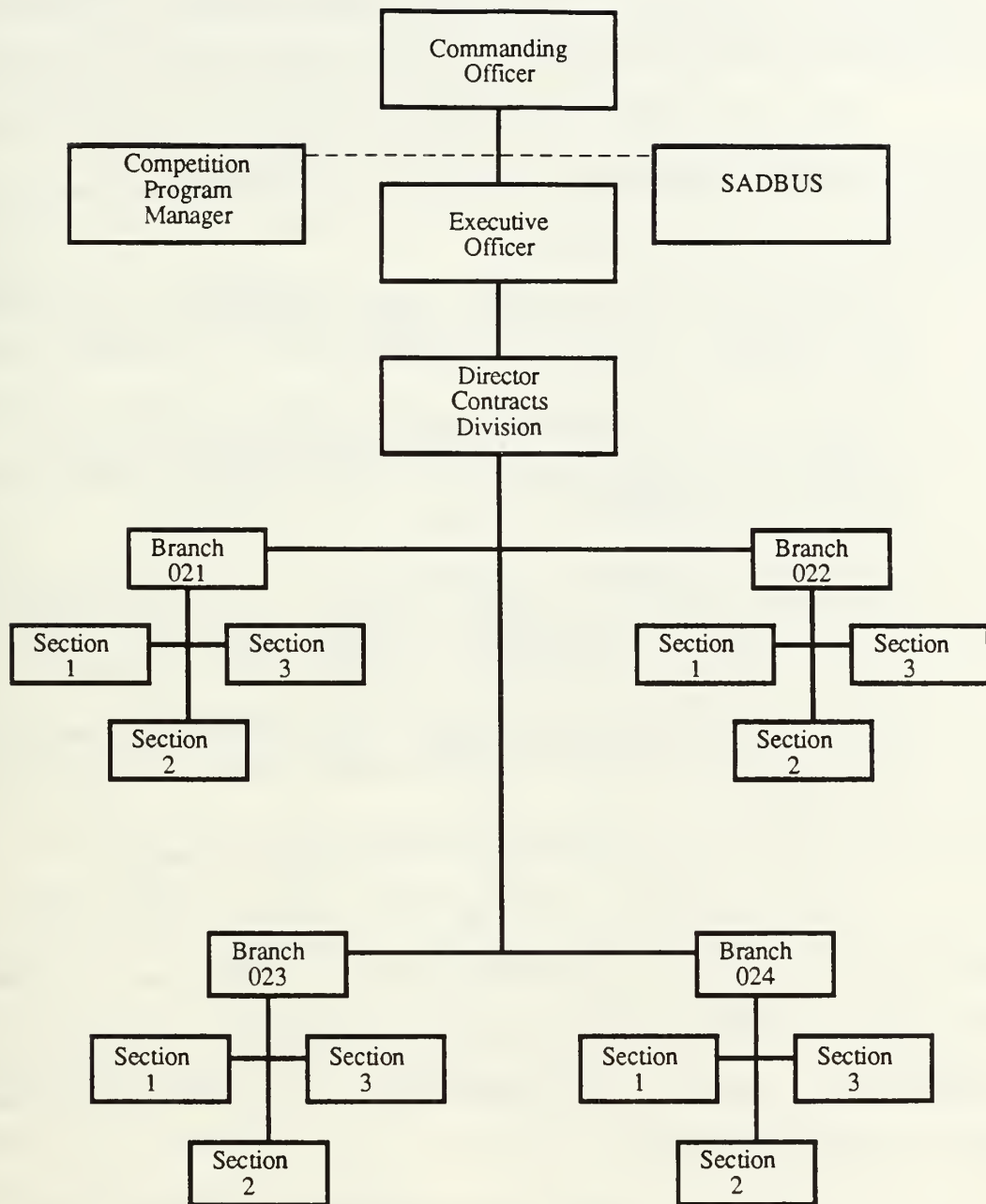


Figure 2. NRCC Philadelphia Contracts Division
Source: Developed by Researcher

support and services. The Branch Head assigns the PR to one of several GS-1102 Contracts Specialists within his branch.

At this point, the Contracts Specialist reviews the PR for completeness and workability, concentrating on the following specific areas:

1. Is the Statement of Work (SOW) complete and accurate and does it present a requirement that is contractable?
2. Are all the necessary approvals attached, e.g.: approval by the General Services Administration (GSA) to procure Automatic Data Processing Equipment (ADPE)?
3. Is the requirement competitive or does the requiring activity specify sole source? If sole source, is the proper Justification and Approval (J&A) for other than full and open competition enclosed?
4. Is technical data required? Is a properly completed DD Form 1423, Contract Data Requirements List, enclosed?
5. Is proper and sufficient funding provided?

After review of the PR package, the Contracts Specialist checks for previous buys of the same or similar goods or services for historical evidence of adequate price competition, sources, past protests, or other problems in previous procurements.

If the PR is complete and does not require return to the requiring activity for any reason, the Contracts Specialist completes a Small Business Review Form and submits it to the Small and Disadvantaged Business Utilization Specialist (SADBUS) for review for possible full or partial set-aside for small business. After review by

the SADBUS, the resident Small Business Administration representative signs off on the Small Business Review Form and returns it to the Contracts Specialist.

If the small business set-aside decision is not a matter for contention or further review, the Contracts Specialist composes and submits a synopsis of the requirement to the Commerce Business Daily (CBD). The synopsis must be published in the CBD for a minimum of 15 days prior to the issuance of a solicitation [Ref. 4:Pt.5]. There is usually an additional six-day period from transmittal of the synopsis to the CBD and first publication. During the mandatory waiting period, the Contracts Specialist assembles the solicitation package. In addition, if the requirement is valued greater than \$1,000,000 (if a firm fixed price contract is anticipated) or over \$500,000 (if other than firm fixed price), the Contracts Specialist prepares the required package for review by a formal Contracts Review Board (CRB). For requirements below the thresholds, the same documentation is prepared; however, it is signed and approved at the contracting officer level.

The CRB, consisting of the Commanding Officer, Executive Officer, Counsel, Contracts Division Director and one or more Branch Heads reviews the requirement and the Contracts Specialist's rationale and strategy for proceeding through to the negotiation phase of the acquisition. If

the CRB approves the plan and the requirement is not sole source or limited competition, the solicitation is issued at the end of the 15 day synopsis waiting period.

If the planned procurement is valued in excess of \$50,000 and other than full and open competition is contemplated, the requirement package goes before a second review board. This board, called the Justification and Approval Board, consists of the same membership as the CRB with the addition of the Competition Program Manager. If the J&A is approved, the Request for Proposal (RFP) is issued, and the solicitation phase begins. If the requirement is valued at \$1,000,000 or above, the J&A must be submitted to NAVSUP for approval. Above \$10,000,000 the approval of the Assistant Secretary of the Navy (S&L) is required.

2. The Solicitation Phase

In accordance with the FAR, solicitations (Invitations for Bid (IFB) and Requests for Proposal (RFP)) must remain open for a minimum of 30 days from the date of issuance of the solicitation [Ref. 4:Pt.5]. The solicitation phase may prove to be considerably longer than the 30 days, as solicitations are often amended to make changes in quantities, specifications, and delivery schedules or to correct defects or ambiguities in the contract terms and conditions. In many instances, the Contracts Specialist will change the closing date for

receipt of proposals to allow potential offerors extra time to assimilate the changed terms or conditions. Additionally, the Contracts Specialist may change the closing date in response to a request from an offeror, if he considers the request to be reasonable and in the best interest of the Government.

Another factor which may lengthen solicitation periods is the pre-proposal conference. The pre-proposal conference is usually conducted by the Contracts Specialist in conjunction with technical representatives from the requiring activity and legal counsel if considered to be appropriate. The conference is held to "brief prospective offerors after a solicitation has been issued but before offers are submitted. Generally, the Government uses these conferences in complex negotiated acquisitions to explain or clarify complicated specifications and requirements."

[Ref. 4:Pt.15]

As bids and proposals are received at the NRCC, they are marked with the time and date of receipt and safeguarded until the closing date. In the case of IFBs, the bid officer abstracts the bids at the bid opening and gives the abstract and the bid packages to the Contracts Specialist. In negotiated procurements, the proposals are given intact to the Contracts Specialist who personally opens and abstracts the proposals.

3. The Evaluation, Negotiation and Award Phase

The steps in the evaluation, negotiation and award phase differ depending upon several factors including:

1. Whether the procurement is sealed bid or negotiated;
2. If negotiated, the extent of competition received;
3. The presence of technical and cost proposals;
4. The type of contract anticipated.

If the procurement is following sealed bid procedures, the Contracts Specialist determines the responsiveness of the apparent low bidder to the Government's requirement. To be responsive, the bidder must "accept all the terms and conditions of the invitation" [Ref. 4:Pt.14]. Next, the Contracts Specialist must determine if the bidder is responsible. To be responsible, the bidder must meet the following criteria:

1. Have adequate financial resources to perform the contract, or the ability to obtain them;
2. Be able to comply with the required or proposed delivery or performance schedule, taking into consideration all existing commercial and governmental business commitments;
3. Have a satisfactory performance record;
4. Have a satisfactory record of integrity and business ethics;
5. Have the necessary organization, experience, accounting and operational controls, and technical skills, or the ability to obtain them;
6. Have the necessary production, construction, and technical equipment and facilities, or the ability to obtain them;

7. Be otherwise qualified and eligible to receive an award under applicable laws and regulations. [Ref. 4:Pt.9]

To make the determination of responsibility, the Contracts Specialist must possess or obtain the requisite information. Historical files may be consulted as well as other contracts specialists and supervisors. If the information is not available in-house, the Contracts Specialist may request a pre-award survey by the cognizant Defense Contract Administration Service (DCAS) activity. Usually, the pre-award survey requests information about the low bidder and those other offerors in possible contention for an award.

Additionally, the Contract Specialist must satisfy himself that the low bidder's price is reasonable by using one or more of the following techniques:

1. Comparison of proposed prices received in response to the solicitation;
2. Comparison of prior proposed prices and contract prices with current proposed prices for the same or similar items;
3. Application of rough yardsticks to highlight significant inconsistencies;
4. Comparison with competitive published price lists, published market prices of commodities, similar indexes, and discount or rebate arrangements;
5. Comparison of proposed prices with independent Government cost estimates. [Ref. 4:Pt.15]

Finally, the Contracts Specialist may award a Firm Fixed Price or Fixed Price with Economic Price Adjustment

type contract to the "responsible bidder whose bid is responsive to the terms of the invitation for bids and is most advantageous to the government..." [Ref. 4:Pt.14]. Procurement clerical personnel within the branch generate the appropriate award documents and submit them to the Contracts Specialist for proofreading and review. After review, the Contracts Specialist gives the award document to the Contracting Officer for signature. It is at this point that the PALT clock stops. Some PALT may be saved by the issuance of a Notice of Award, signed by the Contracting Officer, prior to the actual forwarding of the award document. A letter Notice of Award may be used at any time, but is most appropriate when the award document will be delayed for some reason.

For competitive negotiated and negotiated sole-source requirements, PALT may be significantly longer because of the additional steps the Contracts Specialist must follow. After abstracting the proposals received, the Contracts Specialist develops his evaluation strategy based upon the type of requirement, the extent of competition, and the contract type anticipated. If technical proposals are included, they are forwarded to the requiring activity for evaluation by technical personnel. Discussions may be conducted with offerors to clarify ambiguities or unclear information; however, offerors are not advised of deficiencies in their technical proposals. Offerors with

unacceptable technical proposals who have little chance for award are removed from the competition.

The next step in the evaluation, negotiation, and award phase is the evaluation of cost/price proposals. If adequate price competition exists, or the proposed prices are based on established catalog or market prices or set by law or regulation, the Contracts Specialist need not require cost or pricing data from offerors in the competitive range. Where adequate price competition does not exist, such as in the case of a sole-source procurement, cost or pricing data is required from offerors when the value of the proposed award exceeds \$100,000. (Cost or pricing data may also be required from prospective contractors when the proposed procurement is valued between \$25,000 - \$100,000 and the contracting officer believes requesting cost or pricing data is in the best interests of the government.) Further, in sole source procurements and in competitive procurements when only one proposal is received and the Contracts Specialist cannot justify the price, the Defense Contract Audit Agency (DCAA) is requested to review both the cost or pricing data and the contractor's proposals and to provide audit reports.

After the technical and cost/price proposals have been evaluated, the Contract Specialist develops a pre-negotiation clearance which outlines in detail the results of the evaluations, the establishment of the competitive

range, the method in which negotiations are to be conducted, and if Best and Final Offers (BAFOs) are to be requested.

After the pre-negotiation clearance is presented to the CRB and approved, the Contracts Specialist enters into negotiations with all offerors in the competitive range. The negotiations lead ultimately to submission of BAFOs. Prior to reaching agreement with the apparent winner, the Contracts Specialist may request that DCAS perform a pre-award survey to determine responsibility. At the conclusion of negotiations, a post-negotiation clearance is prepared which outlines the results of the negotiations. The post-negotiation clearance is presented to the CRB and, if the agreement is deemed to be reasonable and in the best interests of the government, the clearance is approved and award is made. As with sealed bid procedures, PALT stops when the award document is signed or when a Notice of Award is signed and issued by the contracting officer.

C. SUMMARY

This chapter presented a detailed discussion of the acquisition process at NRCC Philadelphia and the basic components of PALT. Hopefully the reader has gained an appreciation for the complex and time-consuming nature of the acquisition process at the NRCC and generically for the overall NFCS. The following chapter presents a review of the acquisition environment in which the process must work.

III. THE CHANGING ACQUISITION ENVIRONMENT

A. INTRODUCTION

This chapter focuses on the changing acquisition environment at NRCC Philadelphia within which the acquisition process described in Chapter II must function. It discusses two recent initiatives that have had broad affect on the overall process and specifically on PALT. Following the discussions, an evaluation of the impact of the initiatives on PALT is presented.

Recent Media "horror stories" did much to foster a negative opinion of the DOD acquisition system; consequently, for the past four or five years the system has been under almost constant attack. Allegations of fraud, waste, and abuse have been made throughout DOD. Agencies, both internal and external to the process, have reacted swiftly to the allegations by increasingly regulating the process.

Another aspect of the problem is the sheer size of the procurement system. DOD acquisition is big business. Over 15 million contracts valued in excess of \$150 billion are awarded annually. Congress, as the "keeper of the purse", has the responsibility to ensure that public funds are efficiently and effectively allocated and obligated.

To maintain its "finger on the pulse" of DOD acquisition, Congress has enacted broad-scoped legislation, making the 1980s the decade of procurement reform. Legislation such as the Defense Procurement Reform Act of 1984, the Small Business and Federal Procurement Competition Enhancement Act of 1984, and the annual National Defense Authorization and Appropriation Acts have all impacted the process by which DOD acquires its necessary goods and services.

One Act alone, (the Competition in Contracting Act (CICA) of 1984) has had the most widespread affect on the acquisition process since the Armed Services Procurement Reform Act of 1947. CICA has changed the process, the methodology and the very nature of the Federal procurement business. As a part of this change, CICA led to an increase in the amount of time required to contract.

Influenced perhaps by the notoriety received by DOD over alleged inefficiencies pervasive throughout all levels and activities of the Department, the Naval Supply Systems Command (NAVSUP) implemented in FY 86 a system to enhance productivity and economy of operations. This system, known as Productive Unit Resourcing (PURS), has also had an impact on the acquisition process. While not having as direct and tangible an affect as has CICA, PURS has led to change in the management of the process and the worforce's approach to satisfying the many and varied requirements placed on them.

B. THE COMPETITION IN CONTRACTING ACT OF 1984

CICA was implemented in the midst of, and most certainly as a direct result of, great public concern over the Federal Government's ability to economically and efficiently procure goods and services. Signed by the President into law on 18 July 1984 as Title VII of the Spending Reduction Act and Deficit Reduction Act of 1984, it represented "an amalgamation of bills...considered in the 98th Congress bringing together parts of several Senate and House resolutions." [Ref. 5:p. 119] CICA was a clear indication of Congress' firm belief that increased competition was the key to success in Federal procurement. The thrust for increased competition, though, was not just restricted to Congress. Secretary of the Navy John Lehman in August 1984 pronounced "increased competition in procurement of products and services is a major Navy objective for 1984."

[Ref. 6] The Navy, it appeared, had jumped on the competition bandwagon prior to CICA's implementation.

The changes to the acquisition process wrought by CICA are many, but none have been more significant than the abandonment of the historical preference for formal advertising which had been in effect since 1809 [Ref. 7:pp. 8,22]. Under the rules established by the Armed Services Procurement Act of 1947, all procurements were to be awarded

using formal advertising unless the proposed procurement met one of 17 exceptions. Under CICA "sealed bidding" (the new name for formal advertising) was required when four conditions were met:

1. Time permits the solicitation, submission and evaluation of sealed bids;
2. The award will be made on the basis of price and other price related factors;
3. It is not necessary to conduct discussions with the responding sources about their bids;
4. There is a reasonable expectation of receiving more than one sealed bid. [Ref. 8]

If a procurement does not meet any of the above conditions, it may be awarded using competitive proposal procedures. The competitive proposal procedures, replacing the term "negotiation", are used when any of the above conditions 1-3 cannot be met. Primarily, however, competitive proposal procedures are used when discussions are required with prospective contractors to reach a contractual agreement. It is permitted, under the competitive proposal procedures, to make an award without discussions. A determination must be made that, by accepting the initial proposals, an award would result in the lowest cost to the government. [Ref. 5:p. 127]

Thus, with CICA, Congress' primary concern is no longer what procedures were used to make an award, but to whom the award is made and how many other sources were considered along the way. [Ref. 7:p. 8]

While the pervasive impetus of CICA is competition, there remain certain situations in which the government is permitted to award a contract using non-competitive procedures. The seven exceptions to "full and open competition" are:

1. When only one responsible source is available and no alternate type of service will satisfy its needs.
2. Under unusual or compelling urgency, when the government would be seriously injured unless the agency limited the number of solicited sources.
3. When restriction of an award to a particular source is required because of:
 - a. the necessity to maintain a particular source to ensure its continued availability in the event of national emergency or to achieve industrial mobilization or
 - b. the award is required in order to establish or maintain an essential engineering research or development capability provided by an educational or other non-profit institution or a federally funded research and development center.
4. When the source is restricted under the terms of an international agreement or treaty or by direction of a foreign government that is reimbursing the executive agency for the cost of the procurement.
5. When the item is a brand name commercial item for authorized resale, or a statute expressly authorizes or requires that the source be restricted.
6. When national security requires that the disclosure of the executive agency's requirement be limited to the particular source(s) from which it solicits the bid or proposal.
7. When the head of the executive agency determines it to be necessary in the public interest to use procedures other than competitive procedures. This exception must be the subject of a written notification to the Congress, thirty days in advance of the award of the contract.

Another major change as a result of CICA is the mandatory 45 day combined waiting period for synopsis and solicitation of the proposed procurement. Now, notices must appear (for a minimum of 15 days) in the Commerce Business Daily of the government's intent to solicit offers, plus a six day transmittal time to the CBD. Then, solicitations must remain open for a minimum of 30 days to allow time for potential offerors to produce and submit their proposals. CICA also increased the requirement for the type and quantity of information to be included in the synopsis.

Another major element of CICA was the requirement for each activity with procurement authority of \$25,000 or more to establish a Competition Advocate to ensure the new rules were being followed. The Navy had spearheaded this initiative prior to CICA by establishing its first competition advocates at some field contracting activities in 1982 in response to a Chief of Naval Material directive. In July 1983, the Secretary of the Navy appointed RADM Stuart Platt as the first Competition Advocate General of the Navy. At the field contracting level, this added another review level to a system already brimming with oversight and checks and balances.

CICA also changed (from \$500,000 to \$100,000) the threshold, under the Truth in Negotiation Act, for requiring certified cost or pricing data. This cost or pricing data must be certified as being accurate, complete, and current

as of the date of the agreement on price, i.e. when the "handshake" is made.

A final, but certainly no less significant, result of CICA implementation is the change to the protest procedures. Under CICA agencies are prohibited from proceeding with a contract award if a protest has been filed within the proper time frame and in accordance with applicable procedures. Additionally, if a protest is received within 10 days after award, performance must stop and may not be resumed until the protest is adjudicated. These requirements hold true unless the agency notifies the Comptroller General that the contract award and/or performance must proceed due to "urgent and compelling circumstances". [Ref. 5:p. 134] The Comptroller General, after determining that the protest is neither invalid or frivolous, has 90 days to recommend one of five actions to the contracting officer. Depending on the circumstances, the contracting officer may be directed to:

1. refrain from exercising any options under the contract;
2. issue a new solicitation;
3. recompet the contract immediately;
4. terminate the contract;
5. make an award which is consistent with the requirements of the statute or regulation which has been violated.

Although the gross PALT clock stops during a protest as discussed in Chapter I of this study, CICA has opened the door to a record number of protest actions, each one delaying the delivery of needed goods and services and increasing the time required to contract.

In summary, CICA has received mixed reviews in the two years since its implementation. It is certain, however, that the total dollar value of competitively awarded contracts has increased substantially. In FY 85, NRCC Philadelphia completed \$752.8 million in contract awards (awards in excess of \$25,000). Of this total, \$372.6 million or 49.5% were competed. In FY 86, the total award figure was \$655 million, of which \$398.9 million or 61% were competitively awarded. The total-Navy statistics for competitive awards for FY 85 and FY 86 were 45% and 52% respectively.

However, a casualty of this adherence to the scope and principle of CICA has been PALT. Along with the changes to the procurement process and acquisition methodology described above, has come ever increasing administrative requirements and tasks. Further discussion of the impact on PALT will be presented in the last section of this chapter.

C. THE PRODUCTIVE UNIT RESOURCING SYSTEM

The early 1980's saw DOD, as a whole, under much criticism for generating inefficiencies, using poor

management, and operating a budgeting system encumbered by duplicative reviews and far too many "fits and starts." As the business manager for the Navy, the Commander, Naval Supply Systems Command (NAVSUP), recognized the need for a management system which would provide a correlation between productivity, economy of operation, and mission goals at NAVSUP field activities. In FY 86, the Productive Unit Resourcing system (PURS) was instituted to provide for management of the Operation and Maintenance, Navy (O&M,N) budget execution process. PURS governs the management of O&M,N resources provided by NAVSUP to the eight Naval Supply Centers, four Naval Regional Contracting Centers, the Naval Publications and Forms Center, the Aviation Supply Office and Ships Parts Control Center, and the Navy Regional Finance Center, Washington, DC.

The general theory behind PURS is to fund field activities at the "required level of performance" and on the basis of "actual work performed" rather than on a fixed workyear by workyear method as used previously. PURS requires, therefore, that the activity assumes the responsibility to reduce the cost of work. As a result, NAVSUP:

Expects to achieve substantial gains in workforce productivity and economy of operations through the use of a more flexible workforce, performance based incentive systems, specifically defined performance goals and management of overhead type costs. [Ref. 9:p. 1]

To accomplish its goal of resource management effectiveness, PURS embraces seven key concepts:

1. Fixed or non-productive overhead type costs are funded as an allocation.
2. To facilitate management of the system, the number of cost centers is kept to a minimum and defined by the activity's major mission operations.
3. All costs that can be reasonably and discretely identified and are influenced by an activity's workload fluctuations are funded under the rate for a particular cost center.
4. Service type functions which do not have a definable productive unit are distributed back to user cost center to the maximum extent practicable using a chargeback system.
5. All activity direct O&M,N resources are managed under the system.
6. All productive units generated by an activity are assumed to be the result of mission operations unless they can be tied to a specific reimbursement.
7. Generation of productive units as a result of efforts to reduce a backlog that exists at the beginning of a fiscal year must be justified to NAVSUP on a cost-benefit basis prior to initiation of such efforts. Determination of what constitutes an acceptable backlog will be made and published prior to the start of a fiscal year. [Ref. 9:p. 2]

Productive unit rates for a given fiscal year are determined by a process which begins three to four months prior to the start of a new fiscal year. Upon receipt of the NAVCOMPT budget estimates and controls for the year, the NAVSUP Comptroller forms a preliminary estimate of resource availability for field activity operation. Concurrently, NAVSUP issues a business plan call letter to field commanders which defines fiscal controls and explains the

procedures to follow in developing productive unit rates and workload projections. The activity projects its productive unit rates, expected workload, overhead costs and, in the case of the procurement activities, a PALT estimate for large and small purchase actions. These figures are submitted to NAVSUP as the activity's Business Plan for the upcoming fiscal year.

The Business Plans are reviewed by NAVSUP and are added together and compared with available resources as constrained by the NAVCOMPT estimates. NAVSUP proposed rates and overhead allocations are forwarded to field activities for comment, and any reklamas are considered. The end result of this "negotiation" process is the determination of the annual productive unit rates, total productive units, and overhead allocations for each cost center. Individual cost centers, depending on the activity, may be General and Administrative, Physical Distribution, Inventory Control, Procurement, etc.

As business plans are approved, each activity receives a Financial Operating Plan (FOP). This letter details resources the activity will receive, broken down by each of the applicable productive, distributed and G&A cost centers, and the total planned dollars the activity will receive. The FOP also details appropriation guidance, reporting requirements, and specific Navy controls.

Thirty days after receipt of the FOP, activities are required to submit execution plans to NAVSUP. The plans define, as a group of monthly phasings, how the activity intends to implement the thresholds and guidance in the FOP.

The monthly phasing plans are used by NAVSUP on a month to month basis to compare planned execution against actual performance. Funds are then recaptured by NAVSUP or paid out, depending on the activity's performance. For example, if an activity is producing fewer productive units than planned but at a higher rate (the activity is being less productive but more costly), funds are recaptured by NAVSUP at the planned rate. If more productive units are being generated (the activity is being more productive and less costly), NAVSUP pays for additional units at the original planned rate. To enable this comparison, field activities submit monthly performance execution reports in a format provided in the FOP.

For NRCC Philadelphia, the productive cost center is the procurement cost center. It is defined as:

The Procurement Cost Center will resource all O&M, N labor and nonlabor costs incurred by an activity in providing procurement services. It will be funded on the basis of large and small purchase productive unit cost rates multiplied by projected workload. Additions and withdrawals will be based on actual quarterly completions. [Ref. 9:p. 27]

Specific functions include large and small purchase buying, contract and purchase administration, and procurement overhead. Procurement overhead, such as

printing costs, is allocated to the large and small purchase accounts by a proration system.

Total productive units are reported monthly via the Procurement Management Reporting System (PMRS) which utilizes data from the Individual Contracting Action Reports (DD Form 350) completed by the Contracts Specialists for each action. PMRS automatically calculates the productive units earned according to the following matrix:

<u>CONTRACT TYPE</u>	<u>STANDARD MANHOURS</u>	<u>PRODUCTIVE UNIT WEIGHTS</u>
Del Order/GSA/ Other Fed Agencies	13	1
Sealed Bids	39	3
Unpriced BOA Orders	13	1
Initial Placement of BOAs/Contracts & IDTCs < \$25,000	26	2
Definitized BOA Orders		
25K to <100K	39	3
100K to <500K	143	11
500K to <1M	143	11
1M to <10M	182	14
10M and Greater	182	14
Negotiated Competitive Supply		
25K to <100K	39	3
100K to <500K	52	4
500K to <1M	117	9
1M to <10M	182	14
10M and Greater	182	14
Negotiated Competitive Service/CA Retained		
25K to <100K	52	4
100K to <500K	156	12
500K to <1M	156	12
1M to <10M	195	15
10M and Greater	195	15

Negotiated Sole Source/8A/Nonprofit/Educ/Utilities		
25K to <100K	52	4
100K to <500K	156	12
500K to <1M	156	12
1M to <10M	195	15
10M and Greater	195	15

PURS, by its "manage to payroll" concept, provides for more efficient control of available resources. Activities must utilize their resources wisely and effectively to stay within budget, and must be constantly on the alert for ways to reduce costs and generate a lower productive unit rate. PURS has also had, however, an affect on PALT. This affect is discussed in the next section of this chapter.

D. THE IMPACT OF CICA AND RATE RESOURCING ON THE ACQUISITION PROCESS AT NRCC PHILADELPHIA

CICA was enacted and PURS was implemented to correct problematic situations that were evident in the acquisition process. While it is understood that it is Congress' responsibility to "protect the public trust", it is debateable exactly how much micro-management is necessary to ensure the American taxpayer is receiving best value for his tax dollar. Whether or not Government procurement professionals required CICA to instruct them in how to seek out competition and receive best value for lowest cost is a question that cannot be fully answered with the evidence at hand.

Rate resourcing in accordance with PURS is, on the surface, a definitive solution for past inefficient

management and should effectively enhance economical operations. NAVSUP field activity commanders are more responsible than ever to the "corporation" for the efficient operation of their "subsidiary company."

In addition to major legislative or systematic changes are the plethora of minor regulatory and procedural changes that seem to occur on a daily basis. The simple fact that the process is in a constant state of flux disrupts the procurement process. Our professionals need time to assimilate the major changes and allow the acquisition process to stabilize. It is doubtful that this time will be available in the near future, however, with approximately 100 bills pending in Congress to make further changes to the acquisition process. [Ref. 10:p. 13]

The impact of CICA on the administrative time required to contract is great. While some provisions may serve to reduce the time to perform one or more particular tasks, current evidence points to a substantial net increase in PALT. Interviews with key officials at NAVSUP and NRCC Philadelphia indicated that the following changes have contributed to increased PALT at NRCC Philadelphia:

1. The preparation of J&As for non-competitive procurements has increased PALT. Although the Determination and Findings (D&F) citing one of the 17 exceptions to formal advertising is no longer required, the J&A requires more time due to the review process (an extra review board must approve the J&A) as well as the approval levels for high dollar value procurements.

2. The mandatory waiting times for synopsis of planned procurements in the CBD and the 30 day minimum solicitation times have led to increased PALT. At NRCC Philadelphia this means a minimum of 51 days (6 day transmittal time of the synopsis to the CBD plus 15 day synopsis plus 30 day solicitation) before the Contracts Specialist can begin action to award a contract.
3. Increased competition means more prospective offerors are receiving solicitations. While not true for every procurement, this usually means more proposals are received which must be evaluated. If technical proposals are included, PALT increases exponentially, with 150-200 day evaluation periods commonplace.
4. The reduced threshold for certified cost or pricing data has lengthened lead times as offerors are taking more time to ensure proposals are accurate, current and complete. Contracts Specialists are taking longer to analyze the proposals and performing more thorough cost or price analysis.
5. More smaller firms, unfamiliar with Government procedures and specifications, are requesting solicitation packages since CICA implementation. This has resulted in increased PALT because of the many questions and uncertainties the smaller firms have regarding the SOW or one or another of the specifications. With the desire for "full and open competition" it is difficult to decline a firm's request for an extension of the solicitation closing date.
6. Another aspect of the increased number of proposals received is in more time being required to receive audit reports from DCAA and field pricing reports from DCAS activities. While 60 days is normally the required time to perform an audit and return the report to the contracting activity, because of sheer numbers it can take up to six months to receive the audit reports.
7. According to the Office of Counsel at NRCC Philadelphia, the number of pre-award protests has "skyrocketed". While it is true that PALT stops during protest actions, it still represents a delay in providing the goods or services to the customer. The customer meanwhile is following his own PLT clock, which of course keeps ticking until the requirement is satisfied.

The affect of PURS in the acquisition process and PALT at NRCC Philadelphia is possibly more indirect and less tangible than the impact of CICA, but no less real. While the system rewards productivity and efficiency of operation, its productive unit weighting system for large purchase production rewards "productivity by volume".

Although the higher weightings are assigned to the more complicated, higher dollar value procurements, it is easy for the Contracts Specialist to make up the difference by processing more of the lower weighted, lower dollar value, less complex actions and push the complex requirements aside to work on as time allows. This can, over time, produce an aged backlog of high dollar value requirements simply because there are so many low dollar ones waiting. The resultant increase in PALT for DCs is clearly shown by statistical analysis in Chapter IV.

Additionally, the highest weighting assigned to any contract action is 15. This weighting is given to negotiated competitive service requirements, and negotiated sole source/8A/Nonprofit/Educational Institution/Utility requirements, of \$1 million or greater. What is not considered, however, is the requirement in the Defense supplement to the FAR which states:

Written acquisition plans shall be prepared for...production and service acquisitions whose total contractual cost is estimated at \$15 million for all years or \$5 million for any fiscal year. [Ref. 11:Pt. 7]

The writing and approval of a formal acquisition plan may take several months to accomplish. The additional time and effort required of the field activity is not being recognized under the current weighting system.

Another important consideration of PURS is the incentive to produce a lower quality contractual product in order to complete as many actions as possible during a given time period. The emphasis is on productivity, although each field activity under PURS is required to establish quality goals, it is extremely difficult to quantify a quality contractual product. The standard appears to be "do the best possible job but above all be productive". Quality may be taking a back seat to productivity.

E. SUMMARY

This chapter has discussed two major Congressional and Naval initiatives, CICA and PURS, to improve the overall acquisition process. Key elements of each initiative were presented and analyzed, and were finally discussed as to their specific impact on the acquisition process and PALT at NRCC Philadelphia.

IV. ANALYSIS OF VARIANCE (ANOVA) OF PALT STATISTICS

A. INTRODUCTION

The purpose of this chapter is to present an analysis of variance (ANOVA) of the PALT data provided by NRCC Philadelphia. The primary focus of the chapter is to determine to what extent the implementation of CICA and PURS has affected PALT at NRCC Philadelphia. The chapter also presents the researcher's analysis of the ANOVA results. The data analyzed are the average monthly large purchase PALT statistics for the period October 1984 through August 1987.

B. ANALYSIS OF VARIANCE (ANOVA) OF NRCC PHILADELPHIA PALT STATISTICS

Chapter III of this study presented a discussion of the acquisition environment at NRCC Philadelphia and included a detailed discussion of the two initiatives that have contributed significantly to change of that environment, the acquisition process, and PALT at NRCC Philadelphia. This chapter presents an analysis of NRCC PALT data generated during the period October 1984 through August 1987. The data, the average large purchase PALT statistics for the above period, are broken down and analyzed in three parts:

1. Total PALT for all large purchase actions.
2. PALT for orders against contracts (OACs), including unpriced BOA orders, delivery orders, and orders against GSA schedules (ADP and non-ADP).
3. PALT for new, definitized contracts (DCs), including sealed bids, negotiated competitive supply, negotiated competitive R&D and services, and sole source.

Figures 3 and 4 graphically represent the data. Figure 3 displays PALT behavior for OACs and total PALT for the period. While total PALT has exhibited an overall increase, from a mean of 31 days in October 1984 to a mean of 76 days in August 1987, OAC PALT has remained relatively stable. OAC PALT is, of course, included in the total PALT curve displayed.

Figure 4 represents the behavior of DC PALT and total PALT. DC PALT exhibits a definite and steady increase from a mean of 71.46 days in October 1984 to a mean of 170.18 days in August 1987. As with OAC PALT, DC PALT is included in the total PALT curve. It is evident that OAC PALT has significantly influenced total PALT, as the separation between DC PALT and total PALT indicates.

Each graph has been separated into three distinct populations, A, B, and C. Population A represents the pre-CICA timeframe, B represents the period after enactment of CICA and prior to PURS implementation, and C is the period after PURS implementation. For Figure 3, the cutoff for populations A and B are April and October 1985 respectively. April 1985 is the month that CICA went into effect and

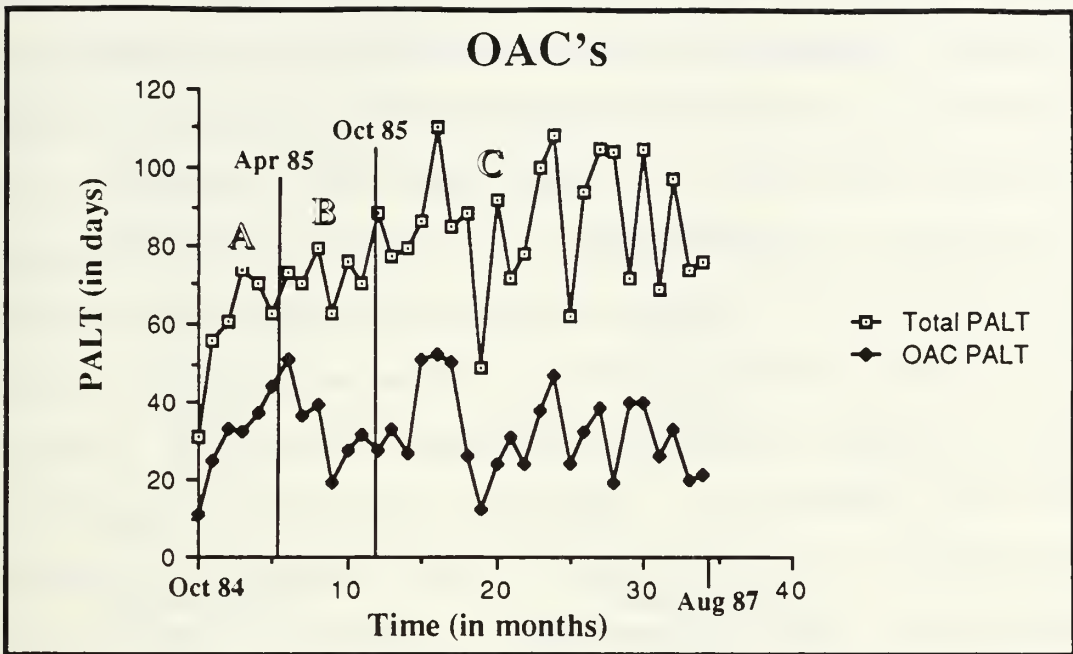


Figure 3. OAC PALT
Source: Developed by Researcher

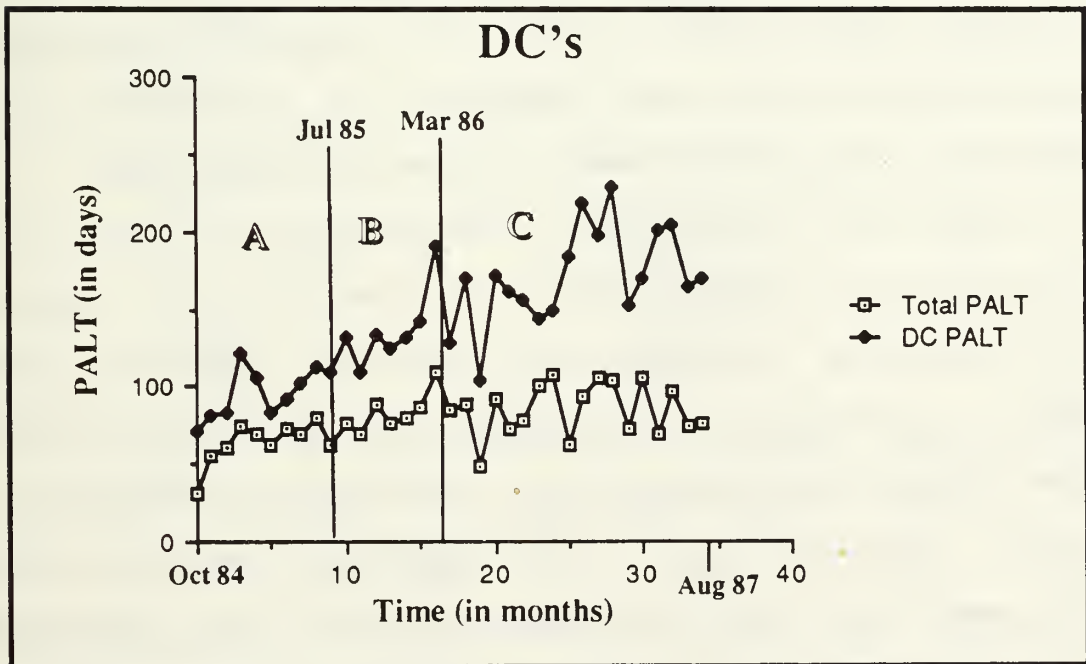


Figure 4. DC PALT
Source: Developed by Researcher

October 1985 was the first month under PURS. In Figure 4, however, the populations are divided a bit differently. The cutoff for population A represents the researcher's estimate of when the effects of CICA were first evident in either increased or decreased PALT. July 1985 is a "best estimate" and was arrived at by projecting total average pre-CICA PALT of 91 days (3 months) forward and assuming that all pre-CICA PRs in process would be completed without any affect from the new legislation. Likewise, the cutoff for population B represents the researcher's best estimate of when the affects of PURS implementation would first be felt (March 1986).

The data was analyzed with respect to these separate and distinct populations. For both figures, population A represents pre-CICA data, population B post-CICA and pre-PURS, and population C post-CICA and post-PURS data.

While the graphs depict PALT behavior for OACs and DCs as affected by CICA and PURS, the researcher is interested in determining the extent to which each initiative affects PALT. To accomplish this, an ANOVA was performed to test if the different populations have significantly different means. Specifically, is there sufficient variation between the population means to indicate PALT was truly affected by an initiative?

Using the Minitab statistical computing system, the data was entered and the ANOVA executed, with results as follows. The means of the various populations are:

1. TOTAL PALT (OACs and DCs)

<u>Population</u>	<u>Mean PALT</u>
A	64.00
B	83.71
C	85.00
A+B	72.12
B+C	84.64
A+B+C	78.74

2. OAC PALT

<u>Population</u>	<u>Mean PALT</u>
A	33.47
B	30.37
C	32.41
A+B	32.04
B+C	31.97
A+B+C	32.27

3. DC PALT

<u>Population</u>	<u>Mean PALT</u>
A	96.24
B	137.76
C	170.95
A+B	113.34
B+C	161.66
A+B+C	142.97

An analysis of these statistics clearly indicates that while PALT for OACs has remained virtually unchanged, PALT for DCs and total PALT has increased steadily since implementation of CICA and PURS. Of particular significance is the B+C mean for DC PALT. This mean illustrates the extent to which post-CICA and post-PURS PALT has increased

over the A or pre-CICA/pre-PURS period. The question remains, however, is the difference between the means significant enough to indicate a direct affect of CICA and/or PURS? To answer this question, the ANOVA was run to test the null hypothesis: $H_0: \text{mean}_A = \text{mean}_B = \text{mean}_C$. In other words, there is no significant difference between the means, therefore, CICA and PURS have had no significant affect on PALT at NRCC Philadelphia.

If the difference between the means is significant, then the research hypothesis, H_A : one or more of the means is not equal, is supported and the null hypothesis is rejected. The ANOVA test shows statistically whether or not the mean weighted average PALT has increased.

In performing the ANOVA, Minitab calculates an F-STATISTIC to use in determining whether or not the null hypothesis should be accepted or rejected. If the F-STATISTIC is significantly large then it can be said that the variance between the means is greater than what would be normally expected due to simple random variation or "noise". Just how large the F-STATISTIC must be is determined by the confidence level desired. This confidence level is applied to an F table to calculate the critical value which is compared to the computed F-STATISTIC. If the critical value is larger than the F-STATISTIC, the null hypothesis is accepted. If the critical value is smaller than the F-STATISTIC, the null hypothesis is rejected. The researcher

chose a confidence level of 95% for this particular test.

The results of the ANOVA are as follows:

1. TOTAL PALT (OACs and DCs)

<u>Population</u>	<u>F-STATISTIC</u>	<u>CRITICAL VALUE</u>
A vs B	8.99	6.20
A+B vs C	5.24	5.57
A vs B+C	4.73	3.01
A vs B vs C	6.48	3.32

2. OAC PALT

<u>Population</u>	<u>F-STATISTIC</u>	<u>CRITICAL VALUE</u>
A vs B	0.27	6.72
A+B vs C	0.01	5.57
A vs B+C	0.07	3.01
A vs B vs C	0.13	4.18

3. DC PALT

<u>Population</u>	<u>F-STATISTIC</u>	<u>CRITICAL VALUE</u>
A vs B	17.07	6.20
A+B vs C	32.02	5.57
A vs B+C	17.33	3.01
A vs B vs C	25.34	4.18

1. Analysis of PALT for Total PALT (OACs and DCs)

An analysis of the ANOVA results indicates that in nearly every case, the null hypothesis that the population means are equal can be rejected, and the research hypothesis that the means are not equal can be supported. The greatest difference in comparing F-STATISTIC to critical value was computed when each population was tested against the other two (A vs B vs C). This shows that, overall, mean total PALT increased during the period October 1984 through August 1987. The only instance in which the F-STATISTIC was lower

than the critical value was in testing A+B vs C. This indicates that, statistically, the means of total PALT for populations A and B combined does not differ significantly from mean total PALT of population C, although the actual difference in mean PALT was a 12.88 day increase. The actual mean difference between the populations can therefore be attributed to random variation or random events and not any specific event itself (in this case, the implementation of PURS).

2. Analysis of PALT for OACs

An analysis of the test results for OACs reveals that the null hypothesis is not rejected, and the research hypothesis that the population means for OAC PALT are not equal cannot be supported. A review of the PALT means for the various populations reveals very little difference in actual means. For example, mean PALT for population A is 33.47 days and for population C is 32.41 days, an actual decrease of 1.06 days. Any difference between the populations can be attributed to random variation or random events, and not any particular event such as the enactment of CICA or the implementation of PURS. An analysis of these test results must go beyond mere examination of numbers to fully understand the outcome and relate it to CICA and PURS.

The intent of CICA was to legislate full and open competition for the federal procurement process. For OACs, CICA would have little affect as it would have been the

original contract, be it a Basic Ordering Agreement (BOA), indefinite quantity or indefinite delivery-type contract, or a General Services Administration (GSA) schedule that would have been awarded subject to the provisions of CICA. The orders subsequently issued against these contracts would be subject to the provisions of the contracts.

Additionally, the implementation of PURS would have little affect on OAC PALT except in rewarding the award of more OACs versus DCs because of the productive unit weighting system discussed in chapter III of this study. Examination of the raw PALT data provided by NRCC Philadelphia supports this view. During the pre-CICA and post-CICA periods (populations A and B), 1666 OAC actions were completed, an average of 98 per month. During the post-PURS period represented by population C, 1976 OAC actions were completed, an average of 110 per month. The number of DC actions completed during the same period decreased from an average of 93 per month (A and B) to an average of 71 per month (C). While DC PALT will be examined in greater detail later on in this chapter, it is important at this point to note that for populations A+B vs C, the ANOVA test revealed a significant increase in mean PALT for DCs of 57.61 days. This analysis indicates that more OACs were awarded in a slightly shorter timeframe, while fewer DC actions were completed, but taking a significantly longer time to award. This supports the researcher's view that

PURS compensates the award of easy to complete actions (such as OACs) while increasing the PALT of DCs which are put aside to form aged backlogs.

3. Analysis of PALT for DCs

An analysis of the ANOVA test results for DC actions shows that in every case mean PALT increased significantly over the period examined. This supports the research hypothesis that the population means are not equal, and that the null hypothesis of mean equality is rejected. Of particular note is the increase in PALT between the pre-CICA and post-CICA periods. The statistical evidence strongly supports the researcher's view that CICA initiatives have increased PALT for DCs. Mean PALT increased from 96.24 days (pre-CICA) to 137.76 days (post-CICA), a difference of 41.52 days.

From the test results, it appears that PURS implementation has also had the purported effect on PALT. Of great significance is the comparison of populations A+B vs C. The computed F-STATISTIC is 32.02 against a critical value of 5.57, a very strong indication of the difference between the PALT means. Additionally, the PALT mean for populations A+B is 113.34 days while for population C the mean is 170.95 days, a difference of 57.61 days. It appears PURS implementation, again mostly due to the productive unit weighting system, has had significant affect on mean DC PALT. While the portion of the increase of DC PALT directly

attributable to PURS cannot be readily determined, DC PALT increased by approximately 43% from the pre-CICA period to the post-CICA period. DC PALT increased another 24% after PURS implementation. This increase over and above the initial increase attributable directly to CICA points out the additional impact of PURS on DC PALT at NRCC Philadelphia.

C. SUMMARY

This chapter presented an analysis of variance (ANOVA) of the PALT data provided by NRCC Philadelphia for the period October 1984 through August 1987. The results of the ANOVA show that total PALT has increased overall since the passage of CICA and PURS implementation. OAC PALT has not displayed a statistically significant increase, but it was shown that CICA would not have a strong effect on the placing of orders against previously awarded contracts. Likewise, PURS implementation has had little affect on OAC actions, except that more OAC actions were completed in less time. DC PALT, however, increased significantly as a result of CICA and PURS. Using a 3-month period as an adjustment factor to estimate when the initial effects of CICA would be felt, and a 4-month factor for PURS, DC PALT displayed a strong, steady increase.

V. CONCLUSIONS AND RECOMMENDATIONS

A. PREFACE

The researcher attempted to answer the following primary research question: What are the principal factors which comprise PALT and how have these factors been affected by the changing acquisition environment, leading to increased PALT?

While analysis of the research data indicated that there are factors external and internal to the acquisition process at NRCC Philadelphia that contribute to increased PALT, there are certain specific procedures and means which can lead to a reduced PALT. The research in this study identified several factors which contribute significantly to increased PALT at NRCC Philadelphia. These factors are presented in the conclusions discussed in this chapter. The recommendation portion of the chapter addresses procedures and methods for reduction of PALT. The recommendation portion is followed by a discussion of the research questions and suggestions for further research.

B. CONCLUSIONS

1. Conclusion 1

Enactment of the Competition in Contracting Act of 1984 and implementation of the Productive Unit Resourcing

system have impacted on the acquisition process at NRCC Philadelphia to cause increased PALT.

As noted in Chapter III, section D, CICAs mandate for full and open competition among all available potential sources has made it difficult to reduce the time required to award a contract. The J&A approval process, for example, requires extra time (at NRCC Philadelphia an extra approval board must meet) over and above the pre-CICA process of D&F approval. The establishment of the Competition Advocates at the field activities to ensure compliance with the rules concerning J&A composition and approval was a clear harbinger of increased PALT. Then, of course, if the requirement is valued in excess of \$1,000,000, the J&A must be approved by NAVSUP, and if over \$10,000,000, the ASN (S&L) has approval authority. The approval process can lead to PALT increases of 180 days or more.

The mandatory synopsis and solicitation waiting times have also led to increased PALT. NRCC Philadelphia experiences a six-day transmittal period (of the synopsis) to the CBD , plus the minimum 15-day period that the synopsis must appear in the publication. Then, the solicitation is issued and must remain open for a minimum of 30 days. In total, this represents a minimum of 51 days before the Contracts Specialist can take any real action towards awarding a contract. On top of the minimum requirements are the requests for extensions of the

solicitation closing dates from potential offerors, which are difficult to turn down in the face of the full and open competition mandate.

More proposals are being received by the NRCC which means more evaluation time is required. If technical proposals must be evaluated, this can add 150-200 days PALT to the requirement. More proposals also means more DCAA audits. Because of the sheer enormity of workload, it can take up to six months to receive an audit report. The lowered threshold for certified cost or pricing data has also increased PALT as contractors are taking more time than ever to put their proposals together.

While OACs have been relatively untouched by the affects of CICA and PURS, DC PALT has increased significantly. As discussed in Chapter IV, mean DC PALT has increased from 96.24 days pre-CICA/pre-PURS to 170.95 days post-CICA/post-PURS.

The affect of PURS on PALT at NRCC Philadelphia, while not as direct and obvious an impact as CICA has had, is no less important. The productive unit weighting system is rewarding the completion of low dollar value, low-complexity actions while allowing the higher dollar value, higher-complexity requirements to age.

2. Conclusion 2

An analysis of the various management techniques and initiatives in place at NRCC Philadelphia to control PALT

indicates that the activity is utilizing the methods and tools currently available to control and reduce PALT. The Commanding Officer chairs weekly "Hot List" meetings wherein the status of all critical and/or high-visibility requirements currently in-house is reviewed. PALT is, of course, one of the chief topics of concern. Also chaired by the Commanding Officer are the Monthly Management Briefs where each overaged requirement is tracked on a monthly basis and closely scrutinized for ways to resolve problems and learn lessons to prevent future overaged actions.

Another initiative which serves to control PALT is the organization of the Contracts Division. As discussed in Chapter II, the Contracts Division at NRCC Philadelphia is organized by customers served. Each branch is assigned a number of requiring activities for which it provides contracting support and services. This method of organization allows the Contracts Specialists to become extremely familiar with the particular and unique requirements of their customers. It also fosters better working relationships between the requiring activity and NRCC personnel.

3. Conclusion 3

The researcher believes that PALT may not be the best indicator of efficient, effective performance for a Navy Field Contracting Activity.

From the customer's perspective, PALT is the primary performance indicator. The customer is only concerned with when its requirement will be satisfied. This "total time to deliver" includes more than just PALT, as was discussed in Chapter I. PALT is only one of the two components of PCLT, or procurement lead time, the other being production lead time (PLT). The customer, however, believes that all of the time between the submittal of his requirement to the procuring activity and the final acceptance of the good or service are to be considered the "contracting activity's time" or time that is charged to the operational and administrative functioning of the procurement shop. Thus, PALT has become the key indicator of how well the contracting activity is supporting its customers.

For the contracting activity itself, however, PALT may not be the best possible indicator of effective performance. In large purchasing there are too many variables for PALT to be considered a standard measure of effectiveness. Each procurement is unique in some way: the difference in dollar value, the method of procurement planned, the contract vehicle contemplated, and even the requirement itself. Although there are standard procedures for most elements of the procurement process, there cannot be standard times or performance periods. Some timeframes are mandated or regulated, but in the current procurement environment, the timeframes are very often exceeded. PALT

does not adequately describe the efforts of the procurement professional to support his or her customers.

PALT also overshadows a more important indicator of performance, the output of a quality contractual product. While a low PALT emphasizes completion of the action in the shortest time possible, it conflicts with the generation of a contractual relationship free from error, ambiguity, and "latent defect." Although it is beyond the scope of this thesis to determine a correlation between low PALT and increased numbers of required post-award actions, the researcher believes that a contract must be as error-free as feasible within the given resource constraints. Producing an error-free contract requires a certain amount of time, and to attempt to produce this effort in a shorter period than what is required is to settle for a lower quality product.

C. RECOMMENDATIONS

While it is evident that the initiatives of legislation such as CICA and productivity enhancement programs like PURS are here to stay and that even more legislation and regulation is on the way, procurement managers must be constantly aware of methods and procedures to enhance the level of support provided to the customer.

Since the level of oversight may increase, and more and more constraints may be placed upon the procurement

professional from outside of the agency, managers must be ever sensitive to new ways to maintain excellence when reform initiatives are imposed. Accordingly, the following recommendations are presented as possible methods for the control and reduction of PALT.

1. Recommendation 1

Initiate program of customer education and training to foster better understanding and awareness of procurement regulations, policies, and procedures.

The phases of the acquisition process that contribute the most to PALT are the pre-solicitation phase and the evaluation phase. In both of these phases the customer is heavily involved. In the pre-solicitation phase, the Contracts Specialist must carefully review the SOW to ensure its contracability. If seriously deficient, the control number is cancelled and the PR is sent back to the customer for rework. Only then does the PALT clock stop. If only minor deficiencies exist, the PR is retained in-house and the customer is notified of the deficiencies. In this case the PALT clock continues to run, waiting for the customer to correct the problem. In the evaluation phase, when technical proposals are involved, the contracting activity is totally at the mercy of the evaluating activity.

An education program which would provide customers with a clear understanding of the specific content and

extent of information required in PR packages as well as training on specific guidelines for proposal evaluation would be extremely beneficial in reducing the overall time required to contract. NAVSUP Publication 547, Contract Request Preparation Guide, could be used in developing a general framework for training in PR preparation.

2. Recommendation 2

Utilize "early synopsis" whenever possible to streamline the pre-solicitation phase of the acquisition process.

Through proper planning by the customer activity and early identification of requirements, some synopses may be submitted to the CBD prior to receipt of the PR by NRCC Philadelphia. Requirements which may fall in this category are yearly recurring requirements and those for which the SOW is essentially firm with little chance of change. The synopsis, in the format required by FAR 5.207, would be composed jointly by the customer and NRCC contracts personnel. Then, while final touches are being added to the PR package by the requiring activity, the synopsis would appear in the CBD, allowing for immediate preparation and issuance of the solicitation upon receipt of the PR package by NRCC Philadelphia.

3. Recommendation 3

NRCC Philadelphia should submit a recommendation to NAVSUP for revising the productive unit weighting system

under PURS to more effectively incentivize the completion of high-dollar value, high-complexity requirements.

At present, the highest weightings are assigned to the completion of contract actions of \$1 million or higher. Significantly more time and effort is required, however, in awarding contracts over \$1 million, as in the case of formal acquisition plans being required for procurements valued in excess of \$15 million. Under the current weighting system, this significant effort is not recognized.

4. Recommendation 4

NRCC Philadelphia should implement a management information system (MIS) to assist Contracts Specialists in becoming more efficient.

While NRCC Philadelphia currently has an in-house automated procurement tracking system, what is needed is an integrated system that contains important historical and decision support data and capabilities to reduce the administrative time required to generate a procurement. Data on contractor's past performance, pricing of same or similar items, available sources, and management control information, as well as a document preparation capability are desirable features of an MIS. The DLA Pre-Award Contracting System (DPACS) currently in the implementation stages at DISC is an excellent example of the type of MIS which should be implemented.

D. RESEARCH QUESTIONS

1. Primary Research Question

What are the principal factors which comprise PALT and how have these factors been affected by the changing acquisition environment, leading to increased PALT?

As discussed in Chapter I and detailed in Chapter II, PALT is comprised of all the actions and tasks required to be performed by the contracting activity after receipt of the PR until the award document is signed by the contracting officer. Some of these factors are mandated through legislation and/or regulation and are not inherently flexible. Other factors can be modified or altered to fit the set of particular circumstances for each procurement to reduce the amount of time required to generate a contract. Enhanced education of the customer, early synopsis where feasible, and development of an acquisition MIS can have a positive impact on NRCC Philadelphia's ability to decrease PALT.

2. Subsidiary Question 1

Are the methods currently used by NRCC Philadelphia procurement managers to control PALT effective?

As discussed in Conclusion 2, NRCC Philadelphia is employing the correct methods and controls to maintain a satisfactory PALT.

3. Subsidiary Question 2

What affect has the increased emphasis on competition fostered by CICA implementation had on PALT?

It is clearly evident from the research, as detailed in Chapter III and statistically supported in Chapter IV, that CICA has led to significantly increased PALT for new, definitized contracts. The affect on orders against contracts has been minimal.

4. Subsidiary Question 3

Is the relationship between PALT, productivity and output of a quality contractual product a workable relationship?

As discussed in Chapter III, the current acquisition environment appears to place most emphasis on productivity. This can lead to reduced quality. Adding concern for a too high PALT statistic to the emphasis on productivity can result in the generation of a contractual product sorely lacking in quality.

The relationship between PALT, productivity and quality is workable if the correct and proper weighting is assigned to each element in the process. NRCC Philadelphia appears to place the correct emphasis on the elements.

5. Subsidiary Question 4

Has the Productive Unit Resourcing System (PURS) caused increased PALT?

As discussed in Chapter IV, while the exact impact that PURS has had on PALT cannot be quantified, it is apparent from the statistical testing that PURS has led to increased PALT at NRCC Philadelphia for DCs. As with the affect of CICA implementation, PURS has had minimal impact on OACs, except that more OACs are being awarded in a shorter period.

6. Subsidiary Question 5

Should current PALT standards be revised?

There are no longer any across-the-board standards for PALT at any NFCS activity. PALT goals are negotiated with NAVSUP and become a part of the business plan agreement each fiscal year. In this way, the goals for each activity are updated based on actuals from the preceeding period.

E. RECOMMENDATIONS FOR FURTHER RESEARCH

Research conducted for this thesis has revealed the following areas for future study. Since the research was limited in scope and methodology, these areas have potentially significant implications for continued improvements to the procurement process:

1. Research the affects of CICA and PURS on the small purchase operation at NRCC Philadelphia or any NFCS activity
2. Research the specific affects of increased emphasis on productivity and a low PALT on output of a quality contractual product at NRCC Philadelphia or any NFCS activity.

3. Develop measurements of effectiveness for controlling and managing a quality contractual product in a NFCS procurement environment and determine how quality can be incentivized while maintaining required levels of productivity.
4. Study the acquisition process at NRCC Philadelphia to determine the potential savings in PALT from the implementation of the initiatives recommended by the researcher.

LIST OF REFERENCES

1. Dominiak, Maryann, "Procurement Leadtime Forecasting Analysis," U.S. Army Tank-Automotive Material Readiness Command, Warren, Mississippi, May 1979.
2. Naval Acquisition Regulation Supplement, 1986 Edition.
3. "Procurement Administrative Leadtime; reporting of," Naval Supply Systems Command Instruction 4200.63B, dated 17 August 1977.
4. Federal Acquisition Regulation, dated 1 May 1986.
5. Sherman, Stanley N., Government Procurement Management, Gaithersburg, MD: Wordcrafters Publications, 1985, Second Edition.
6. "The Contracting Process," Senior Management Board Presentation by Supply Officer, Naval Ordnance Station, Indian Head, MD, 8 August 1984.
7. Coy, Curtis L., "The Competition in Contracting Act of 1984," Master's Thesis, Naval Postgraduate School, Monterey, California, June 1986.
8. "The Competition in Contracting Act of 1984," Title VII of the Deficit Reduction Act, Public Law 98-369, 18 July 1984.
9. "Productive Unit Resourcing at Naval Supply Systems Command (NAVSUP) Field Activities," Naval Supply Systems Command Instruction 7000.21A, dated 12 December 1986.
10. Preston, Colleen, A., "Congress and the Acquisition Process: Some Recommendations for Improvement," National Contract Management Journal, Vol. 20, Issue 1, Summer 1986.
11. Defense Federal Acquisition Regulation Supplement, Part 7, 1986 Edition.

PERSONAL INTERVIEWS

Interview between Norman G. Reich, Director, Field Support Division, Naval Supply Systems Command, and the author, 13 July 1987.

Interview between William Mackinson, Director, Contracting Policy and Planning Division, Naval Supply Systems Command, and the author, 13 July 1987.

Interview between Elaine Weschler, Procurement Analyst, Naval Supply Systems Command, and the author, 13 July 1987.

Interview between Jason O. Hirsh, Director, Resource Management Division, Naval Supply Systems Command, and the author, 13 July 1987.

Interview between David Capizzi, Commander, SC, USN, Naval Supply Systems Command, and the author, 13 July 1987.

Interview between Michael F. Jaggard, Commander, SC, USN, Executive Officer, Naval Regional Contracting Center Philadelphia, and the author, 14-15 July 1987.

Interview between Barney McDevitt, Competition Program Manager, Naval Regional Contracting Center Philadelphia, and the author, 14-15 July 1987.

Interview between Joanne Gallagher, Director, Contract Management and Policy Division, Naval Regional Contracting Center Philadelphia, and the author, 15 July 1987.

Interview between Adam Geuss, Director, Contracts Division, Naval Regional Contracting Center Philadelphia, and the author, 15 July 1987.

Interview between Edward Tierney, Branch Head, Naval Regional Contracting Center Philadelphia, and the author, 15 July 1987.

Interview between Dan Consalvi, Branch Head, Naval Regional Contracting Center Philadelphia, and the author, 15 July 1987.

Interview between Harry Brydon, Section Head, Naval Regional Contracting Center Philadelphia, and the author, 15 July 1987.

Interview between David L. Balint, Lieutenant Commander, SC, USN, Chief, Contracts Division (DISC-PC), Defense Industrial Supply Center, Philadelphia, PA, and the author, 16-17 July 1987.

Interview between Ronald Taylor, Lieutenant Colonel, USA, Chief, Contracts Division (DISC-PK), Defense Industrial Supply Center, Philadelphia, PA, and the author, 16 July 1987.

Interview between James Clark, Contracts Specialist, Defense Industrial Supply Center, Philadelphia, PA, and the author, 16 July 1987.

Interview between Shane Paul, Assistant Chief, Contracts Division (DISC-PC), Defense Industrial Supply Center, Philadelphia, PA, and the author, 17 July 1987.

Interview between Russ Bowen, Contracts Specialist, Defense Industrial Supply Center, Philadelphia, PA, and the author, 17 July 1987.

Interview between R.E. Anderson, Peacekeeper Purchasing Manager, Westinghouse Marine Division, Sunnyvale, CA, and the author, 14 September 1987.

Interview between Frank Burke, Purchasing Manager, ESL, INC., Sunnyvale, CA, and the author, 29 September 1987.

Telephone conversation between Edward Tierney, Branch Head, Naval Regional Contracting Center Philadelphia, and the author, 19 October 1987.

Telephone conversation between Barney McDevitt, Competition Program Manager, Naval Regional Contracting Center Philadelphia, and the author, 14 October and 4 November 1987.

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